05-CE-130

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June 13, 2003

DELIVERED BY MESSENGER

Lynda L. Dorr
Secretary
Wisconsin Public Service Commission
610 North Whitney Way, 2nd Floor
Madison, WI 53705-2729

Dear Ms. Dorr:

Re: Draft Environmental Impact Statement
Elm Road Generating Station
Docket No. 05-CE-130

Enclosed for filing are the original and 21 copies of Calpine Corporation's comments to the Draft Environmental Impact Statement prepared for the Elm Road Generating Station.

If you have any questions concerning this matter, please feel free to contact me.

Yours very truly,

Peter L. Gardon

Madison\111443PLG:LT

Encs.

cc Mr. Joseph D. Condo (w/enc.)

MFC
CO-8
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Elec-10

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CALPINE

June 12, 2003

Jeffery Kitsembel
Public Service Commission of Wisconsin
610 North Whitney Way
Madison, WI 53705

RE: Elm Road Generating Station, Docket No. 05-CE-130

Dear Mr. Kitsembel:

Calpine Corporation submits this letter in response to the invitation to comment on the Draft Environmental Impact Statement (DEIS) prepared for the Elm Road Generating Station (ERGS) that has been proposed by Wisconsin Electric Power Company (WEPCO) and affiliates. In light of the fact that Calpine has submitted an alternative proposal for the Commission to consider in this docket, Calpine very much appreciates the opportunity to provide comments to the DEIS. The references that follow are identified by chapter, page number, and paragraph in the DEIS.

One overarching concern of Calpine is the lack of certainty to the proposal, particularly related to the overall financial and environmental costs this proposal will impose upon Wisconsin citizens and ratepayers. In a myriad of ways, the ERGS proposal contains uncertainties that in other Certificate of Public Convenience and Necessity (CPCN) proceedings before the Commission have been resolved so as to avoid the potential situation where the Commission conceivably approves a project that is not permittable. These issues include, but are not limited to:

- Transmission interconnect costs and environmental impacts;
- Environmental impacts of interconnecting facilities, including Chapter 30 wetland impacts;
- Section 316(b) water quality issues, including intake and discharge structures and potential need for cooling tower facilities;
- Impact to air modeling analysis due to uncertainty over stack height;
- Impact to demand forecast due to potential retirement of older units due to WEPCO settlement with the U.S. Environmental Protection Agency (USEPA).

Despite the comprehensive analysis provided in the DEIS, the areas of uncertainty detailed below clearly indicate, at a minimum, that further analysis is needed to give the public an adequate opportunity to consider the potential impacts related to one of the most expensive pending electric generating projects in the United States. In addition, it is unclear whether an extensive Chapter 30 alternatives analysis will be required by the Department of Natural Resources for the site or the offsite facilities that impact wetlands. The DEIS indicates that there will be wetland impacts on the site and the rail corridor. To the extent that new or expanded transmission facilities are required, it is highly likely that

there will also be Chapter 30 wetland impacts associated with those facilities. This alternatives analysis is at least as extensive as the alternatives analysis required by the Commission.

In the proceeding related to Calpine's proposed Sherry Energy Center, the Wisconsin Department of Natural Resources (WDNR) took the position that Chapter 30 required a thorough review of alternatives, including alternative generating technologies and alternative projects that could be built or purchased, due to the wetland impacts of an associated water line and gas pipeline. The gas pipeline facilities associated with the Sherry Energy Center, like the ATC transmission facilities for the ERGS, were separate jurisdictional facilities for which no application was currently pending. WDNR, however, took the view that, since the plant could not be operated without the interconnecting facilities, the presumed impacts of the gas pipeline required the applicant to review and explain alternatives, including consideration of purchasing other previously approved projects. WDNR's stated position on this issue should be applied to the Elm Road proceeding as well.

Calpine believes that it would be prudent to delay the proceeding until further detail on these important issues becomes available. At the very least, Calpine recommends that a Final Environmental Impact Statement (FEIS) and CPCN for the ERGS proposal not be issued until (1) all applications directly related to the ERGS are submitted to WDNR and deemed complete by WDNR, (2) applications have been filed and reviewed by both the Commission and WDNR with respect to any necessary new and/or upgraded ATC transmission facilities, due to the sheer scope of that related project.

Calpine believes that the numerous environmental and economic uncertainties of the ERGS proposal should be weighted as material risk factors when considering alternate supply resources, such as Calpine's Fond du Lac and Fox facilities. This would help ensure that Calpine's competitive proposal is evaluated on a level playing field. Failure to take these important issues into consideration would discriminate against the merits of Calpine's proposal and would lead to a less-than-optimal result for Wisconsin's ratepayers and our environment.

In addition to these more general comments, Calpine's specific comments appear below:

Chapter 1, Page 3, third paragraph: Calpine wishes to note that not only must an affiliate agreement be reasonable and in the public interest, but also that the legislature, in its consideration of the leased generation statute, never intended for a leased generation proposal to be given any preference over any other proposal. This is in contrast to the specific statutory preference for natural gas over coal-fired generation. The law was passed simply to provide another option for construction of new generation.

Chapter 1, Page 15, third paragraph: Currently there is a disagreement between the WDNR and the USEPA over whether or not the ERGS proposal constitutes a "new source" under the requirements of Section 316(b) of the Clean Water Act. Based on recent discussions between US EPA and Wisconsin DNR about the classification of the

new structure under 316(b), there is some question about whether the 316(b) rules would apply to the new structure as a new (Phase I) or existing (Phase II) facility. Phase II facilities are currently not regulated because US EPA has not promulgated regulations detailing the specific best technology available (BTA) approach that will be required for Phase II-affected facilities. However, based on a review of correspondence between the agencies in question and discussions with WDNR, it appears that the classification of the new structure will have little impact on WEPCO's responsibility to meet the basic BTA requirements, namely that their facility will be required to do one of the following:

- limit approach velocity to less than 0.5 feet per second;
- demonstrate why an approach velocity of more than 0.5 feet per second would not have a significantly higher impact in impingement/entrainment than an approach velocity of less than 0.5 feet per second; or
- show that the cost of compliance to demonstrate an approach velocity of less than 0.5 feet per second is unreasonable.

Calpine believes that WEPCO's proposed once-through cooling system does not meet the BTA standards that will be required of a newly constructed intake structure under Section 316 (b), whether it is deemed to be an existing facility or a newly constructed facility. The information currently available is inadequate to determine if the proposed system is an environmentally feasible solution, and engineering and design changes necessary to meet the BTA requirements of 316(b) could make once-through cooling cost-prohibitive for ERGS. Accordingly, the Commission should require WEPCO to provide a revised submittal describing in greater detail how they propose to satisfy the BTA requirements of 316 (b), including the environmental and financial impacts associated with such an approach. This issue could lead to a major increase in the cost of the ERGS project.

Chapter 2, Page 28, final two paragraphs: The community impact payments to Oak Creek are a quantifiable, verifiable cost to the ERGS project and should be included in all analyses performed by the Commission.

Chapter 3, Page 38, last paragraph: The statement that the Fox Energy facility near Kaukauna is unlikely to built in the near future is inaccurate. Calpine recently purchased Fox Energy Company, LLC from MidAmerican Energy Holdings, and expects to commence construction on the facility in late summer 2003.

Chapter 3, Page 39, second paragraph: There are certain generalities in this paragraph that should be corrected. While it is true that many independent power providers (IPPs) face tight capital and credit markets as a result of the economic downturn and in the aftermath of the Enron scandal, Calpine has shown that it can finance and construct major new generating facilities as long as an economic power sales agreement is in place. Indeed, Calpine is currently building its Riverside facility in Beloit. These facilities have contracts with Wisconsin utilities that were not "reluctant" to enter into such contracts with Calpine. Numerous other Calpine projects with long-term contracts are also moving forward across the United States.

Chapter 3, Page 50, third and fourth paragraphs: These paragraphs conclude that approval of the ERGS proposal would not prevent the development of a competitive wholesale market in Wisconsin. Calpine strongly disagrees. If a utility is allowed to simply select itself to build any future generation project in Wisconsin, there will be no wholesale market to develop. Utility-owned, ratebase facilities essentially constitute long-term "take or pay" obligations to ratepayers that clearly impact the ongoing development of a competitive wholesale market. Additionally, in the 2002 Port Washington Generating Station (PWGS) proceeding, WEPCO stated that in fact, the 1,000 MW figure referred to by the Commission actually includes over 800 MW that were under contract to WEPCO prior to the PWGS proceeding (Abood testimony, pp. 708-09).

Calpine believes that if the ERGS is built as currently proposed in both timing and scope, it is highly unlikely WEPCO will consider any long-term contract with an IPP in the foreseeable future. As it is contemplated in the DEIS that Madison Gas & Electric Company and Wisconsin Public Power Incorporated will purchase power from the ERGS (see DEIS page 22), it is also highly unlikely that either of these utilities will enter into any long-term contracts with an IPP in the foreseeable future.

Moreover, the FEIS should recognize that the ownership and financing structure proposed for the ERGS represents an extraordinarily long-term obligation on the part of Wisconsin ratepayers compared with contracting for new generating supplies from third parties, such as IPPs. Most IPPs, including Calpine, would be willing to enter into "long-term" contracts of as little as 10 or 15 years. This inherently represents a much lower overall risk to ratepayers than locking in the high capital costs associated with the ERGS proposal for such an extended period. Indeed, Calpine recommends that the FEIS reflect at least one model run comparing the alternative sources for a period of no more than 15 years.

Chapter 4, Page 69, third paragraph: Calpine believes that it is never the case that a formal competitive process is unreasonable. WEPCO would appear to agree, as it conducted such a process for the construction of the ERGS facility (see DEIS page 15). WEPCO also has current requests for proposals (RFPs) in place for 200MW of wind and 100-400 MW of peaking power. Only the generation to be potentially filled by the ERGS project was deemed to be untenable for a competitive process. Calpine strongly agrees with the Commission's statement that "the use of competitive forces does foster cost discipline that ultimately benefits ratepayers", and is grateful that the Commission is engaged in an unbiased analysis of the proposals before it.

Chapter 4, Page 69, fourth paragraph: Note that the Commission has in fact granted the CPCN for the Fond Du Lac Energy Center. The final order was issued on May 5, 2003. The Fond du Lac Energy Center has received all permits, including those issued by WDNR, necessary to start construction.

Chapter 4, Page 71 et. seq. (general comment on EGEAS inputs): The Commission appears to have accepted the "full 30-year expansion plan" as the relevant

timeframe for various EGEAS scenarios. Calpine believes that the Commission should not simply accept the premise that a 30-year planning horizon is necessarily in the public interest.

Due in particular to the high capital costs of the ERGS, it clearly benefits the ERGS proposal to run the model over the longest timeframe possible in order to obtain an optimal level of amortization of these capital costs, especially when compared with lower capital cost projects such as Fond du Lac and Fox. Calpine believes the FEIS should include shorter model runs to determine how the optimal integrated resource portfolio changes based on time limits. Since longer planning horizons generally have more uncertainty and therefore more risk than shorter planning horizons, it is important to determine if ratepayers might, indeed, be better off under a 10- or 15-year expansion plan, rather than a full 30-year expansion plan.

Chapter 4, Page 78, first paragraph: Calpine believes that a $10 million materiality threshold is the correct one for the Commission to use. Given that ratepayers pay for WEPCO's proposal, Calpine would take the position that something even less that $10 million is in fact material. This is especially true in light of the fact that unlike the Port Washington proceeding, there are very serious environmental policy decisions in this docket that will impact Wisconsin for decades.

Chapter 4, Page 78, second paragraph: Calpine believes that failure to include the $266 million in transmission costs into the analysis leads to a materially inaccurate result. The fact that such costs may be part of a separate CPCN proceeding does not remove them from ratepayers' balance sheets. Calpine believes that the transmission cost figures for the ERGS proposal, as well as for Calpine's proposals, must be included in the EGEAS runs, in order for the analysis to have any true meaning. Calpine's proposal is more economic than WEPCO's even when several uncertainties are not included. If transmission costs, CO2 monetization and coal plant cost overruns not covered by WEPCO are included, such an EGEAS run would result in Calpine being the clear, unequivocal winner.

Moreover, the DEIS errs in suggesting that the existing American Transmission Company (ATC) interconnect study for the ERGS proposal may overstate expected interconnect costs. While such costs may, in fact, be higher or lower than the $266 million projected by ATC for a variety of currently unpredictable reasons, it is inappropriate to speculate on the level of those costs until an updated interconnect study is complete, which ATC has suggested will not occur until later this year. In lieu of an updated study, there is no choice but to use the existing published study, especially in comparison to Calpine's competitive alternative, which also has a complete interconnect study on file. This is the only way to ensure an "apples to apples" comparison that does not unfairly discriminate against Calpine's proposal.

Specifically, Calpine strongly recommends that the respective ATC projected interconnect costs for the ERGS should be included in the EGEAS runs reflected in the FEIS. In addition, Calpine believes that the FEIS should explore why the projected

interconnect costs for the ERGS proposal are so high and disproportionate to all other pending ATC interconnect requests. Absent further information, this suggests that the existing transmission system surrounding Oak Creek has little if any excess capacity and is not, therefore, an optimal location for significant new power generation. In any event, this is a significant, known potential cumulative impact that should be discussed thoroughly in the context of the pending proceeding.

Chapter 4, Page 79, third paragraph: Calpine has previously in these comments discussed the notion that the ERGS proposal has a number of major cost questions and other uncertainties surrounding it. Calpine agrees with the Commission's introduction of the notion that it is premature to issue permits now for facilities that will not begin operation until 2011, especially in light of such uncertainties.

Chapter 5, Page 83, first paragraph: Over 70 percent of the energy consumed by WEPCO customers is produced by coal (which is far above the national average of around 50 percent), and only three percent is produced by gas. Therefore, WEPCO's statements that fuel "balance" requires the construction of a massive coal-fired project are inconsistent. To the contrary, as Wisconsin becomes more dependent upon coal than other regions of the United States, it becomes more vulnerable than other states to future environmental liabilities such as stricter mercury rules or regulatory caps on carbon dioxide emissions.

Chapter 5, Page 85, third through fifth paragraphs: The DEIS poses the notion that while there is no real possibility that we will run out of natural gas in the foreseeable future, the natural gas used in the future will be more expensive. However, the DEIS also recognizes that higher gas prices will lead to increased exploration and new areas of production, and that the final result may be an expanding resource base at prices lower than what currently exist (page 87, second paragraph). Historically, the natural gas market has shown a great deal of resiliency in terms of matching supply and demand, and it is vital to avoid making long-term decisions based on short-term market behavior.

Additionally, the fact is that coal prices have shown volatility in the past as well. Between September 2000 and 2001, coal prices nearly doubled. Historically, coal prices lag the price volatility of natural gas but still have been highly correlated to gas price changes, as coal owners seek to extract economic advantage. Lastly, it is the general case that power generators' fuel costs are not necessarily correlated to the spot price of any fuel, because they have either signed long-team contracts for the fuel supply and/or have hedged against short-term volatility.

Chapter 5, Page 88: An extrapolation from the number of megawatts of gas-fired generation being added in the United States to reach conclusions about increases in gas consumption can be misleading. First, many of the reported megawatts represent simple cycle combustion turbines that will operate relatively few hours each year. Second, in many parts of the country, including the Northeast, Texas, and California, new combined-cycle generating facilities will displace power production from older steam plants that previously consumed large quantities of gas. In these situations, because the newer-

technology plants are able to produce the same electric output with roughly one-third less fuel, gas consumption for power generation can actually decrease when new gas-fired capacity is added. U.S. EIA currently predicts that U.S. gas demand will grow at an average annual rate of 1.8 percent through 2025, and that new electric generation will account for only about half of that growth.

Chapter 5, Page 89, fourth and fifth paragraphs: In today's market, power generators have a range of gas supply options. Firm and interruptible transportation contracts with pipelines are two of these options, but generators can also enter into capacity release agreements with existing holders of pipeline entitlements, or contract for gas supplies delivered directly to the plant. It is also becoming more common for power generators, local gas distribution companies and other end users to purchase gas supplies at regional market centers, such as the Chicago hub, instead of buying gas all the way back at the supply area in Oklahoma, Louisiana, or Alberta. Because market centers aggregate supplies from multiple pipelines and supply basins, and are often supported by underground gas storage facilities, this is generally a more cost-effective and reliable contracting approach than committing to gas supplies and pipeline transportation from a specific gas producing area.

Chapter 5, Page 90, first paragraph: It is standard practice in tolling arrangements for the buyer (generally the utility) to contract for a portion of firm gas supply. Also it is Calpine's practice to maintain adequate alternative fuel supplies at its facilities serving Wisconsin. The appropriate level of firm pipeline capacity will be different for each plant, and will evolve over time as generating requirements and gas supply and transportation conditions change.

Generators have strong incentives to maintain fuel arrangements that will allow them to reliably meet their contractual obligations to supply power. Although it may appear from a reliability perspective that having a gas-fired generator control more firm pipeline capacity should always be better than less, it is not in the public interest to require power generators to hold more pipeline capacity than is needed. Such a policy would create environmental costs associated with unnecessary pipeline construction, and would lead to higher power generation costs, which would be ultimately reflected in the prices consumers pay for electricity.

Chapter 5, Page 90, all paragraphs: Calpine agrees that pipeline service reliability is an important issue for all consumers of natural gas in Wisconsin. However, as more gas-fired generating facilities are constructed for baseload power supply, and the gas delivery infrastructure in the state is developed to satisfy these new requirements, the reliability of the gas pipeline system serving the state will increase. To discourage new gas-fired generation because the gas transmission facilities needed to serve these loads are not in place today is illogical, since it ignores the fact that natural gas pipelines can only be approved and constructed after there is a demonstrated need for the facilities. In fact, during 2002 more than 3,571 miles of pipeline and a record 12.8 billion cubic feet per day of natural gas pipeline capacity were added to the national pipeline network,

clearly demonstrating that the natural gas transportation industry remains able to quickly respond to changes in local and regional demand.

Moreover, pipeline improvements that are anchored entirely or primarily by power generation requirements, such as the ANR Westleg expansion that was recently approved by the Federal Energy Regulatory Commission, provide economic and reliability benefits to all gas users on the pipeline system. These reliability and efficiency benefits to the natural gas system should be taken into account evaluating new gas-fired generation against non-gas alternatives.

Chapter 5, Page 92, fifth and sixth paragraphs: Power generators generally maintain a portfolio of natural gas supply contracts with pricing terms that dampen the effects of short-term price volatility on power generation costs. Depending on the objectives of the power purchaser, fuel costs can be stabilized with fixed-price fuel contracts or financial hedges.

Chapter 5, Page 95, first through third paragraphs: The DEIS assumes that coal plants always use once-through cooling systems and natural gas plants always use cooling towers. This is not true. Natural gas plants proposed by Calpine in Wisconsin have been designed with cooling towers in order to minimize environmental impacts to the water source (ground or surface waters) and the receiving body. In certain instances, Calpine has sought to re-use water from private treatment facilities such as a paper mill in Wisconsin Rapids for the Sherry Project, so as to avoid the consumptive use issues associated with taking waters of the state. Similarly, Calpine's Fox Energy Center will utilize treated effluent from the Heart of the Valley wastewater treatment facility to provide cooling water for its Fox Energy Center, avoiding use of existing surface or underground sources of water. Due to the uncertainty involved in permitting its proposed water use facilities (the uncertainties have been described above), WEPCO should analyze the alternative of using cooling towers. This alternatives analysis should be made available for public review and comment.

Chapter 5, Page 96, fourth bullet point: The statement is made that reliability issues with power generation increase as the percentage of natural gas generation increases. Reliability involves many more issues than just fuel supply, and the DEIS has not provided a sufficient level of information that demonstrates natural gas supplies are less reliable than coal. Further, an analysis of reliability also should include operational reliability in addition to fuel reliability. Coal-fired plants, by the nature of their process, have significantly more events that result in unplanned outages than do gas-fired combined-cycle plants. For example, coal-fired plants often face steam boiler tube leaks and fuel handling problems that result in either reduced output or unit downtime required to accommodate repairs. The DEIS has made no effort to evaluate the impacts of such events on overall reliability, which calls into question whether the analysis fully evaluates all reasonable issues that may impact reliability.

Reliability is not just a function of fuel type, but is also a function of location and diversity of supply. Indeed, locating such a significant portion of Wisconsin's new energy

generation at one location, such as Oak Creek, presents reliability issues in and of itself. This is especially true given the extraordinarily high projected transmission interconnect costs, which suggest that the existing grid can support little, if any, new generating capability at that location.

Chapter 6, Page 98, sixth paragraph: The DEIS makes numerous references to negotiations that are underway for the purchase of a federally-owned parcel of land that is currently used as a shooting range. No information is provided on the status of those negotiations or the potential impacts to the ERGS project if the negotiations are not successful. By contrast, Calpine was required to show proof of ownership or rights to exercise ownership prior to a completeness determination for all its various projects in Wisconsin in order to meet the alternative site requirements in the CPCN guidelines. WEPCO should (i) identify the environmental condition of the land as it will likely assume all liabilities associated therewith, (ii) the land that WEPCO would sway for the 70-acre parcel, and (iii) a binding contract for the land, whether purchase agreement or option. In the event that WEPCO cannot show proof of rights to the land, alternate plans should be provided.

Chapter 6, Page 114, second paragraph: WEPCO proposes that each unit would require about 460,000 gallons per minute of cooling and service water into the system, or about 662 million gallons per day. This is about 189 times more water than would be required by a comparably sized gas-fired combined cycle plant. From another perspective, the water used by a combined cycle gas-fired generating facility like Calpine's Fond du Lac facility in an entire day would keep one of the ERGS units operating for about 8 minutes. Most of this water will be obtained by WEPCO through its intake structure; however, Table 6-3 indicates that nearly one million gallons per day would be obtained from the local city water supply. Such a substantial demand for water could place additional demands on the potable water supply and treatment capacity of the City of Caledonia, which could have an adverse impact on of local citizens, particularly during drought conditions. Furthermore, while the ERGS plant would increase the temperature of water discharged back to Lake Michigan by about 12 degrees Fahrenheit, the discharge from Calpine's Fond du Lac plant would be only be warmer than the receiving water at Lake Winnebago by about one degree in winter and two degrees in summer.

Chapter 6, Pages 115 and 125, Figures 6-7 and 6-10: The water balances detailing water flows of the proposed ERGS appears to be missing some data, i.e. total inflow from Lake Michigan at the lower left of the figure. The Commission should require that WEPCO provide all information on each component of the water balance diagram so that a clear and complete understanding of the water consumption of the proposed ERGS project can be had.

Chapter 6, Page 117, second from last paragraph: WEPCO states that its proposed IGCC unit is based on the Texaco Gasification Power System, and that information presented herein is preliminary. However, Texaco has developed and recently brought into operation two IGCC units in Italy that are roughly the same size as

that proposed for ERGS. If the Commission intends to authorize this unit, WEPCO should be required to provide significantly more information than what has been presented in this application before the FEIS can be completed or a CPCN can be issued. Alternatively, the IGCC should be dropped from the proposed CPCN due to a lack of credible information necessary to support a full and complete evaluation.

Chapter 6, Page 126, final paragraph: There is no basis cited for the proposition that within 10 years, the utilization of sulfur and slag will grow from zero to 100 percent. What landfill capacity plans are in place in the event this exponential growth does not in fact occur?

Chapter 7, Page 138, first paragraph: The DEIS refers to WDNR's State Implementation Plan (SIP) and its provisions that relate to efforts to attain the ozone standard. Currently, the Milwaukee area, which includes the proposed site of the ERGS, is classified as severe-17 nonattainment for the federal 1-hour ambient air quality standard for ozone. Provisions of Title I of the Clean Air Act Amendments of 1990 require that areas that are classified as nonattainment must make reasonable progress toward attainment by the applicable deadline. The progress demonstration includes an ongoing evaluation of existing emissions sources, new sources added to the airshed, and the impacts of emission reduction measures, among other factors.

With respect to ERGS, Calpine is concerned that an additional 5,200 tons per year of NOx emissions each year will place the attainment progress of the Milwaukee area in jeopardy. Currently, Milwaukee is covered by a Section 182(f) exemption from nonattainment provisions as they apply to NOx emissions, meaning that NOx reductions are not currently believed to be supportive of ozone attainment. However, it is not clear that WDNR has evaluated the impact of an additional 5,200 tons per year of NOx emissions on the airshed attainment model.

Furthermore, Calpine is concerned that such a substantial increase in emissions from existing levels will result in more areas being classified as nonattainment for the impending eight-hour ozone standard, which USEPA is preparing to establish in the next several years, and could result in loss of the 182(f) exemption for the Milwaukee nonattainment area. Withdrawal of the 182(f) exemption could result in significant emission reduction requirements in the area, which could result in new emission controls and requirements for emission sources not previously regulated such as on-road mobile sources, i.e., cars and trucks; off-road mobile sources like farm machinery and equipment, boats, snowmobiles and other recreational vehicles, in addition to large stationary industrial sources.

Chapter 7, Page 141, fourth paragraph: This paragraph states that WEPCO's PSD and NSR applications are not yet complete. In prior cases, the Commission stated that such air permit applications must be complete in order for the public to adequately consider the impacts of the proposed project.

Chapter 7, Page 148, final paragraph: In prior applications, the Commission has required Calpine to state specifically its onsite chemical storage plans, as well as a complete list of type and quantities of such chemicals, prior to being issued a completeness determination. WEPCO should be required to provide the same level and type of information for the ERGS proposal.

Chapter 7, Page 151, third paragraph: The DEIS notes that, due to the phased construction schedule proposed for the ERGS, WEPCO may be granted as much as 90 months (7.5 years) in which to complete construction of the proposed units. Calpine notes that, while WDNR has granted minor increases in timeframes to complete construction – and such accommodations can be considered reasonable based on specific circumstance, contemplation of a 90 month permit is markedly inconsistent with federal PSD regulations and common practice regarding NSR/PSD permits. Regulatory agencies typically include a deadline in permits so that sources cannot preserve current best available control technology (BACT) determinations and regulatory interpretations indefinitely. It is very likely that significant advancements in BACT, along with other area-specific air quality issues, e.g., loss of 182(f) exemption requiring nonattainment requirements for NOx, will change during the course of 90 months after permit issuance. Though WDNR is likely to require a BACT update 18 months before start of construction, this does not address other air quality issues that may be avoided through an excessive construction deadline, such as nonattainment requirements for LAER and emission offsets. Calpine believes that such a lax construction deadline represents an inappropriate action with respect to protection of air quality, as well as an example of preferential treatment that is afforded to WEPCO and not to other applicants.

Chapter 7, Pages 163 through167: There are several issues regarding the DEIS description of the air dispersion modeling analysis that is required for the ERGS project. It is noted on page 163 that the stack heights for the South and South-Exp sites must be reduced by approximately 200 feet to mitigate air navigation hazards to the John H. Batten Airport in Racine County. However, the DEIS also discusses how WEPCO has failed to complete its analysis of the impacts from the two southern sites. Calpine raises two objections to this situation.

First, it begs explanation as to how an adequate environmental impact analysis can be developed for a facility where no air dispersion modeling has been completed. The public and interested parties have no idea what the final impacts of the southern proposed sites, and cannot make an informed evaluation of the proposed facility. Given the thin margin of compliance with several NAAQS standards – especially that of particulate matter and SO2 – it seems nearly impossible that WEPCO could show compliance with these requirements considering stack heights that would be reduced by more than 30 percent. Additionally, this calls into question whether the South and South-Exp sites are legitimate alternative sites – a clear and specific requirement of state regulations and CPCN guidance.

Second, as stated previously on other issues, Calpine and other IPPs were not granted completeness determinations on CPCN applications until all air dispersion modeling

analyses were completed and the results were made available to the Commission for incorporation into the DEIS. The DIES statement that the revised modeling analysis will be made available as part of the FEIS is not sufficient to allow the public and interested parties a legitimate opportunity to effectively review and develop comments/testimony in response.

Calpine also has concerns regarding the modeling results associated with the North site, particularly with respect to several pollutants that are very close to the applicable NAAQS and Class II Increment limits. Table 7-24 provides data regarding multiple pollutants and ERGS contribution to consumption of the available Class II increment. However, the DEIS provides no discussion regarding the amount of Class II increment that is available, i.e. how does the proposed ERGS expansion relate to existing sources of pollution under these various parameters?

For example, ERGS is expected to contribute approximately 62.9 $\mu g/m^3$ toward the 24-hour standard of PM_{10}, and background contributions of PM_{10} constitute another 56 $\mu g/m^3$, which represents a total combined PM_{10} impact of about 120.9 $\mu g/m^3$. Under the increment analysis, however, approximately 28.1 $\mu g/m^3$ of the Class II increment (of a maximum of 30 $\mu g/m^3$) is consumed by the ERGS project alone. Table 7-24 and the surrounding discussion make no reference to the available Class II increment for PM_{10}, nor do they address the contribution of existing PM_{10} sources in the area that also may be consuming a portion of the Class II PM_{10} increment.

Presumably, if the ERGS project represents approximately half of the total contribution (in addition to other nearby sources) of PM_{10} regarding the 24-hour NAAQS, it follows that other contributing sources also consume Class II increment. This situation occurs for each of the six modeled pollutants, and in no case is a representation is made regarding existing available/consumed increment. What is most disturbing is that, in light of the substantial deficiencies noted above, the DEIS states that:

> "Judging from WEPCO's air modeling and PSD increment results, the ERGS would appear to quality for a DNR permit." (Chapter 7, page167)

The DEIS then states two sentences later that:

> "DNR analyses would also examine the cumulative impacts of each unit at each site so that the effects of adding each unit into the others can be seen."

Taken together, it appears that the DEIS recognizes that WEPCO's modeling submittal is substantially deficient, but makes the presumption that the project will satisfy all modeling-related concerns. Moreover, WEPCO has recently filed testimony in this proceeding indicating that yet another configuration of exhaust stacks – one involving a single common stack for both SCPC units – is being evaluated for ERGS. There is a clear question as to whether the public and interested parties will ever have an opportunity to fully evaluate WEPCO's proposal as it impacts ambient air quality in the context of this CPCN proceeding. Considering the relatively large impact on ambient air

quality shown even by the partial modeling results provided in the DEIS, Calpine believes that air dispersion modeling results for the ERGS project are inadequate and that the Commission must provide the public and interested parties a legitimate opportunity to fully evaluate and comment upon the complete modeling analysis.

Chapter 7, Page 169, second paragraph: The expanded ERGS project would result in new annual emissions of 9,785 tons per year and 5,245 tons per year of SO2 and NOx, respectively. The DEIS narrative indicates that this would result in less than one-half of one percent of statewide emissions of each of these pollutants. However, compared with total statewide emissions of 303,049 tons per year and 193,795 tons per year, respectively, ERGS would represent an increase in Wisconsin's total annual SO2 and NOx emissions of 3.2 percent and 2.7 percent, respectively.

Chapter 8, Pages 187 through 189: The DEIS provides data on entrainment and impingement studies obtained almost 30 years ago while at the same time noting on page 189 that major shifts in nutrient loading have occurred in the southern basin of Lake Michigan over the past several decades. Calpine's experience in Wisconsin with the CPCN process has been that updated studies for the specific areas of impact must be completed and made available for public review as part of the process. Other examples of studies that should be considered inadequate include to zooplankton tows conducted in Illinois (page 190), the thermal studies conducted in 1976 (page 194), the incomplete Lake Monitoring Study (page 206), and evaluations of historical properties (page 256).

Chapter 8, Pages 194 through 199: The DEIS discusses the water consumption and intake rates for both the existing Oak Creek Power Plant and the proposed ERGS addition. On pages 194 through 195, OCPP is stated to have a maximum water intake rate of approximately 1,165 million gallons per day (mgd) and an average rate of about 978 mgd, with a total consumptive use of about 68,000 gallons per day. Page 195 describes approximately 3.4 mgd of wastewater from several sources that is discharged back to Lake Michigan through a number of outfall structures. However, there is no discussion of the total discharged volume. In addition, page 198 begins a discussion of the proposed combined OCPP/ERGS water intake/discharge system, and specifies that OCPP currently takes in about 1,015 mgd from, and discharges about 988 mgd to, Lake Michigan, which indicates a total consumptive load of more than 27 mgd. Clearly, this is inconsistent with the statements made on page 194 regarding consumption use of water, which states that the rate of consumption is about 400 times less.

Also, the DEIS provides a water balance in Figure 8-5 (page 199) that features only a few discharge volume flow rates, and few/no intake or internal flows. Although some data is provided in tabular form on pages 200-201, it is very difficult understand the water balance based on what has been provided. Further, the inconsistency of water use data regarding the OCPP discussion calls into question whether the flows presented on pages 200-201 can be verified. Calpine requests that this information be provided to the public and interested parties before additional evaluation of the ERGS application can proceed.

Chapter 8, Page 203, first paragraph: Calpine has mentioned this issue previously in these comments. The USEPA has stated that it does not believe that the ERGS is an existing facility for purposes of the 316(b) regulations. If the ERGS is so deemed a new facility, the cost of the facility may rise by a dramatic amount. It is difficult to discern how the Commission can make a full and thorough analysis of this proposal given this serious uncertainty.

Chapter 8, Page 214, fourth paragraph: The DEIS notes that there are several options available to WEPCO for the disposal of dredge materials, but does not describe the impacts, including number of truck movements, truck routes, traffic management plans, description of the fuel oil facilities and expected usage thereof during the almost continuous excavation process, etc., of any one of the options. While it may be true that the specific option to be used will be decided prior to obtaining a Chapter 30 permit, assuming that WDNR deems the dredging and disposal of the material to be a permittable activity after its review of the impacts and alternatives to the proposed project, the impacts of all options should be described in the DEIS so that the public may review and comment upon them.

Chapter 9, Pages 232 through 234: The DEIS describes how the operation of the IGCC unit will produce approximately 60,000 tons per year, or 62,400 gallons per day of sulfuric acid as a byproduct. Although there is some discussion of sale of this material as a byproduct, there is no discussion of how WEPCO would handle and dispose of this hazardous material in lieu of sale. Calpine requests that the Commission and WDNR explore this issue further and force WEPCO to provide additional information on its plans for non-saleable hazardous products, such as sulfuric acid. This information should include, but not be limited to, cost impacts, potential disposal sites, and environmental impacts associated with hauling the materials.

Chapter 9, Page 234, fourth through seventh paragraphs: WEPCO's plans to excavate massive amounts of material to provide for the planned once-through cooling system will result in significant quantities of material that must be applied, backfilled, landfilled, or otherwise handled. One of the more troubling questions is the fate of unregulated material that was disposed of at OCPP before such material was regulated by WDNR. Based on WEPCO's site plans, it appears that approximately 2 million cubic yards of material will need to be landfilled off-site, some of this possibly at hazardous landfill sites. At this time, WEPCO has provided no information about the environmental conditions of the waste or how it proposes to handle this waste. Calpine believes that WEPCO must be required to thoroughly sample the materials expected to be excavated and make clear its plans for handling such a large quantity of unregulated waste material.

Chapter 10, Pages 250 through 253: The DEIS describes that the OCPP/ERGS site contains significant land resources that stand to be heavily impacted by the proposed ERGS project. Specifically, OCPP/ERGS is home to about 200 acres of primary environmental corridor (PEC), much of which is used as a migratory pathway for birds traveling along Lake Michigan, as well as a wintering habitat for some bird species. Much of this PEC would be impacted/destroyed regardless of the site that was chosen for

the ERGS project. In addition to habitat, the OCPP site also is home to several plant and animal species that are listed as either endangered, threatened or of special concern by WDNR. WEPCO's description of the ERGS site as a "brownfield" is contradicted by the immense impact on the PEC and other sensitive environmental areas. This is clearly an area where WDNR's alternatives analysis should be implicated.

Chapter 10, Pages 257 through 274: Depending on the site chosen, construction of ERGS would result in the loss of significant amounts of wetlands, woodlands, beachfront bluff and other important habitat. Specifically, construction of ERGS would result in:

- excavation and placement of between 7.3 and 10 million cubic yards of soil and other material, which would result in construction of several major berms and major alterations to site topography;
- destruction of between 9 and 21 acres of wetland isolated natural resource areas;
- removal of as much as 700 feet of Lake Michigan beachfront or as much as 1,900 feet of existing streambed;
- loss of nearly 2 acres of wooded critical species habitat near the rail loop; and
- elimination of between 75 and 87 acres of primary environmental corridor, which serves as a migratory pathway and wintering area for several bird species.

In addition, three sites of archaeological / historical interest are located within the proposed site development area, including two campsite/village sites and one projectile point discovery site.

By contrast, Calpine's proposed Fond du Lac project would impact:

- no archeological / historical sites;
- no critical species habitat areas;
- no threatened or endangered species;
- no isolated natural resource areas;
- minimal areas of shorelines of the Lake Winnebago and East Fond du Lac River during construction of the plant's water intake structure and associated pipeline, respectively, on a temporary basis; and
- one minor wetland area comprising approximately 0.3 acres that is currently part of an existing agricultural field and deemed to be of low quality.

Also of note, prior to the grant of a completeness determination for the Fond du Lac CPCN application, Calpine was required to re-route the water and gas pipeline routes leading to its proposed alternate site to avoid an area of remnant mesic prairie contained in the Oakfield Prairie Natural Resource Area. Calpine's original proposal included the installation of water and gas pipelines along an abandoned railroad line over a length of approximately ¼ mile through the Oakfield Prairie area. WDNR and the Commission expressed concern about invasive plant species that may become established as a result of construction of the pipelines, and Calpine was directed to find another route before

additional evaluation of the CPCN application would take place. In response, Calpine agreed to re-route the pipelines away from the Oakfield Prairie area.

Calpine urges the Commission to reevaluate wildlife and habitat impacts of the proposed ERGS and reconcile the treatment of this project with its recent actions and positions taken on other projects. It seems very clear that multiple acres of major habitat, vegetative and wildlife impacts associated with WEPCO's ERGS proposal should be deemed of material concern.

Chapter 10, Page 275, first paragraph: Construction of ERGS would result in new exhaust stacks of between 470 and 675 feet in height, depending on the site chosen. Because these structures will be constructed near the lakeshore and within the existing PEC, there is a strong possibility for additional injury and death to migratory birds that follow a path along the proposed ERGS site.

Chapter 11, Page 277, last paragraph: The DEIS states that the transmission upgrades necessitated by the ERGS will include construction of one new 345 kV line of about four miles. This is incorrect. In addition to this four-mile line, a new line from Pleasant Prairie to Libertyville, Illinois (23 miles) or a new line from Big Bend to Paddock (56 miles) will also need to be built. In addition, there may be little difference in terms of local environmental impact between a "new" and an "upgraded" 345kV transmission line, especially if the upgrades involve new poles, conductors and widened rights-of-way. The most important issue, however, is that these cost and impacts remain uncertain and unknown, until and unless a revised ATC interconnect study is complete and applications for the relevant jurisdictional facilities have been filed.

Chapter 11, Page 278, last paragraph: The statement that WEPCO has no plans to retire any of the existing Oak Creek units appears inaccurate, in light of the USEPA penalty, settlement and recent WEPCO public announcements.

Chapter 11, Page 292, fifth and sixth paragraphs: The DEIS notes that construction of the three proposed ERGS units will take at least four, six or eight years, depending on how many units are authorized. By contrast, Calpine plans to construct the Fond du Lac facility in approximately two years, resulting in a significantly shorter period during which construction-related environmental impacts would be present.

Chapter 11, Pages 321, 322: According to the labels on Figures 11-3 and 11-4, WEPCO's noise modeling analysis does not include the impacts associated with critical service equipment such as coal handling, coal trains, cooling fan tonal noise, etc.

Chapter 11, Page 324, first and second paragraphs: The DEIS states that the modeling of noise impacts from the proposed ERGS project was based on actual recorded values from WEPCO's Pleasant Prairie plant with addition of a 2 dBA "adder". Calpine notes that this approach is inconsistent with the Commission's guidance for modeling noise impacts from proposed facilities.

Calpine was directed by the Commission in the course of several power plant projects, most recently the Fond du Lac and Sherry facilities, that noise data must be provided for each significant source of noise energy and modeled discretely. Although the Commission allowed Calpine to use measured data from an adjacent power plant during evaluation of the Fond du Lac project, the noise estimates from Calpine's proposed facility all were based on vendor-provided information and were specific to the equipment being proposed. By contrast, the Pleasant Prairie facility is not even a SCPC facility, which contradicts any claim that the facilities are similar enough to follow a surrogate noise modeling protocol. Also, as noted on page 318, a 3 dBA increase in noise energy is "barely perceptible" to the human ear, so addition of this 2 dBA factor to provide a level of conservatism appears to have little meaningful benefit.

Additionally, the Commission and WDNR have not required WEPCO to provide noise data on the air separation unit (ASU) associated with the proposed IGCC unit. ASUs are a significant source of noise at IGCC plants, and the DEIS should include this source – as well as all of the other support sources – that have been omitted from the noise modeling analysis.

Moreover, the DEIS has not presented any information regarding impacts of noise on the dBC range, nor has it offered any information regarding octave band noise impacts. Both sets of information are required according to Wisconsin's noise modeling protocol guidance.

Finally, the DEIS has provided no information on location of nearby noise receptors, modeled noise impacts and cumulative sound levels in a tabular format. Although Figures 11-3 and 11-4 do provide some information regarding relative noise impacts superimposed on a map of the proposed site area, there is no accompanying data with which to further evaluate impacts to the nearby surroundings.

Chapter 11, Page 362, last paragraph: The DEIS notes that ATC has not yet applied for approval of any of the transmission work associated with the ERGS. It is therefore a very valid question as to whether or not it is prudent for the Commission to issue a CPCN for the ERGS in advance of such transmission approval. It is likely that, if the ERGS is approved, WEPCO will begin work on the ERGS, with the implication to the Commission being that failure to subsequently approve a transmission project of at least $266 million is no longer an option for the Commission.

General Comment: As a general matter, we note that there is no discussion or analysis of electromagnetic fields (EMF) that may result from the WEPCO proposal. We point out that Calpine, even though no new transmission lines would be constructed in connection with the Fond du Lac Energy Center, was required to perform an EMF analysis on the transmission line that would receive and transmit the power output from their facility. By contrast, no analysis or discussion of EMF impacts have been addressed for the WEPCO proposal despite the fact that nearly three times as much electric power will be transmitted away from the facility, and approximately 30 miles of new

transmission lines will need to be constructed.

Thank you for the opportunity to comment on this matter.

Sincerely,

Joseph Condo
Senior Counsel
Calpine Corporation